

# **Developing Resilient Freight Systems**

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# Washington State's Freight Systems Support Broad Industry Sectors

## **Global Gateways**

International and National Trade Flows Through Washington

## **Made in Washington**

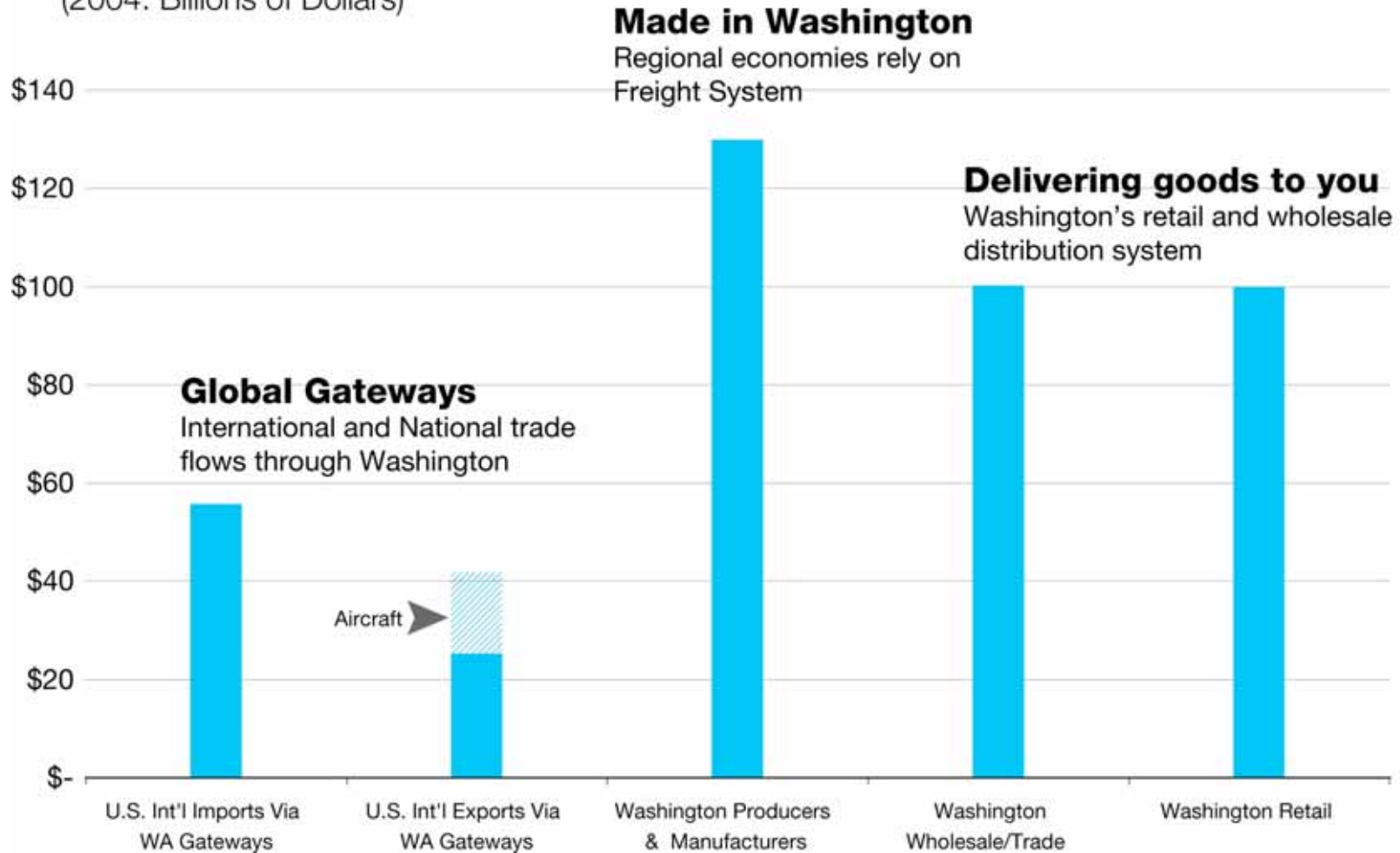
Regional Economies Rely on the Freight System

## **Delivering Goods To You**

Washington's Retail and Wholesale Distribution System

# Washington State Value of Freight Shipments

(2004: Billions of Dollars)



Source: U.S. Customs Bureau; WA State Dept. of Revenue.

# I. Global Gateways

International and national trade flows through Washington



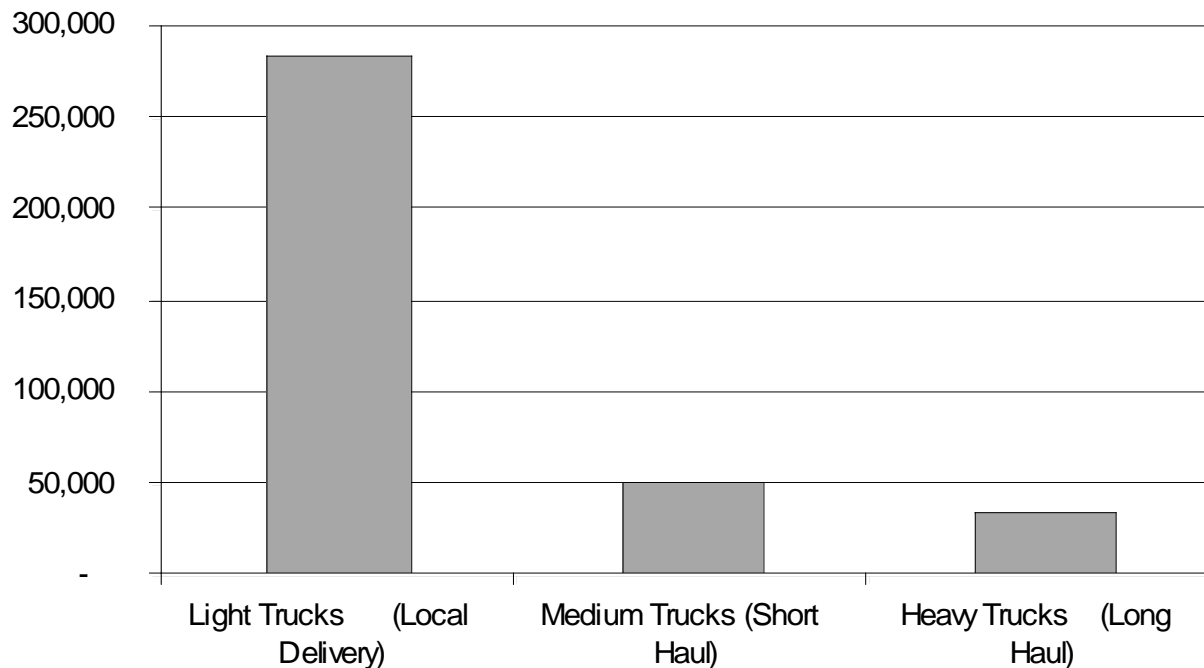
# Regional Economies Rely on Freight System



### III. Delivering Goods To You

#### Washington's retail and wholesale distribution system

- Up to 80% of truck trips operate in the local distribution system that delivers food, fuel and retail goods to consumers.
- In 2004, almost ten times more light and medium trucks than heavy trucks were licensed in Washington State.



# How Can We Develop a Resilient Freight System in Washington State?

Resiliency is defined as the ability to rapidly restore service after a disruption.

WSDOT's Resilient Freight System research project with MIT's Center for Transportation and Logistics was completed in 2007 and provides:

- Best practices of public-sector freight system resiliency planning in the U.S.,
- A logical approach to develop a statewide freight system resiliency plan,
- Stakeholders' roles and tasks needed to develop a resiliency plan.



Flooding on I-5 Corridor in Lewis County  
December 7, 2007

# What Did We Learn From Freight System Customers?

We interviewed freight customers' about their expectations of government, their business continuity plans, and how they'll work with government when there is a high-impact disruption.

Shippers and carriers said that:

- They don't know who in government to call post-disruption for information, and rely on the media for real-time information.
- There's no communication system in place allowing government agencies to communicate directly with freight customers.
- They expect government to have pre-established rational priorities.
- They value accurate, timely information above all else.




# **Resilient Freight System Research**

## **Key Insights**

- Response does not equal recovery. The skills, objectives and resource needs are different.
- The public and private sectors must jointly own the recovery plan. Both have a role to fill.
- The state DOT must have a credible, reliable and user-friendly communication system for freight customers.
- The state needs to pre-plan mechanisms to fast-track recovery.
- The state has to be able to manage scarcity.

# Freight Systems Resiliency Plan

 Identify the customers of the state's freight transportation system:

- Global Gateways
- Made in Washington
- Delivering Goods to You.

 Set goals and metrics for recovery, for example:

- Return container flow through the ports to X percent of previous level within Y days of event.
- Restore truck access to X percent within Y days.

 Analyze vulnerabilities of the region's transportation network and consider:

- Independent actions of private firms
- Infrastructure and modal interdependencies
- Vulnerability of different customer segments.

# Freight Resiliency Plan

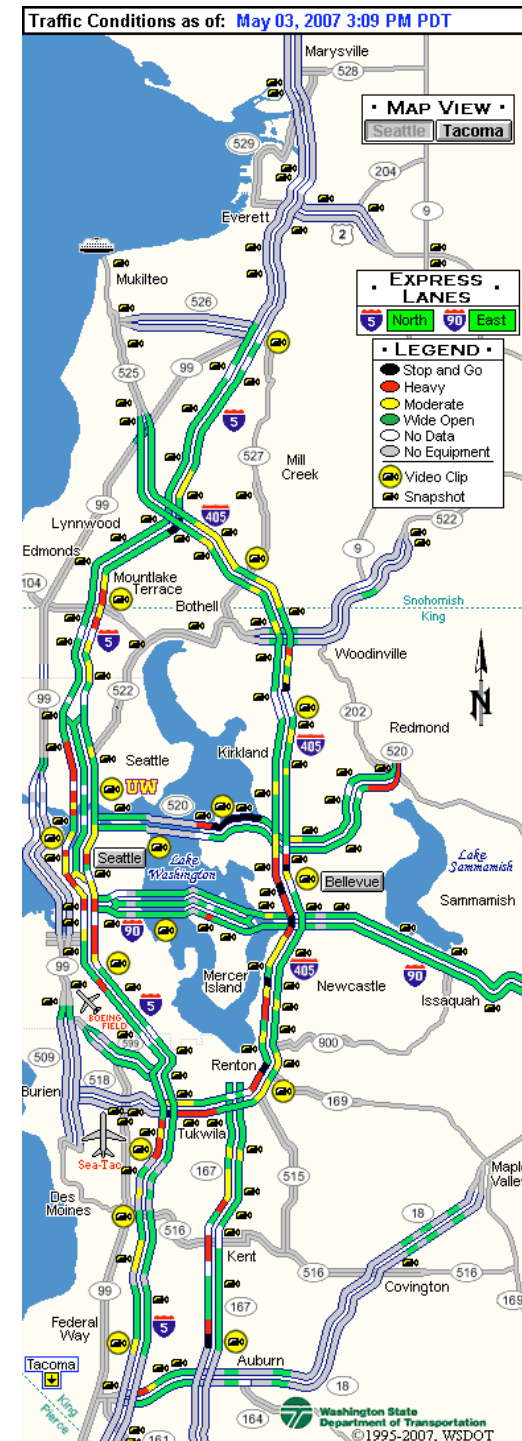
4. Engage private sector partners.
  - Build relationships and develop a communication plan.
  - The center of the communication plan is the notification process.
5. Decide what policy and regulatory procedures need to be in place before disruptions occur.
6. Decide how you will set priorities and agree on trigger setting processes.
  - When there's scarce capacity, who gets to use it?
  - When will DOT take over from first responders?
  - Who's in charge during the recovery phase?
7. Run failure analysis simulations on the most critical infrastructure.
8. Test and improve the plan by running large scale exercises.

# Resiliency Improvements Add Capacity to the Freight System, Everyday

## Information is Key.

WSDOT developed and hosts a Traveler Information website for Washington State highways, featuring:

- Puget Sound travel times,
- Road closures,
- Highway project updates,
- Truck stop and rest area locations,
- Local weather conditions, and
- Mountain pass conditions.



# Multi-State Operations for Freight

WSDOT has also developed and hosts a Traveler Information website – targeted for truckers - for the I-5 Corridor linking information from Washington, Oregon and California. Please see [wsdot.wa.gov/partners/TIO/](http://wsdot.wa.gov/partners/TIO/) for:

- Detailed traveler information,
- Truck stop and rest area locations,
- Local weather conditions,
- Truck permit information, and
- Road restrictions



# Next steps.....

## **For more information:**

For a full copy of the Washington Transportation Plan  
Freight Report and Resiliency Phase 1 Research:  
[www.wsdot.wa.gov/freight](http://www.wsdot.wa.gov/freight)

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